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Giuseppe Covino

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EXAMINER

FAN, HUA

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/568,688	Applicant(s) COVINO ET AL.	
	Examiner HUA FAN	Art Unit 2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the Amendment/Remarks filed on 9/17/2008. Claims 37-74 are pending.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: “computer-readable medium” in claim 72 needs to be defined or exemplified in the specification.

Claim Objections

2. Claim 71 is objected to because of the following informalities: claim 71 refers to claim 73, which is not a preceding claim. For the sake of examination, claim 73 is considered the parent of claim 71.

Response to Arguments

3. Applicant's arguments on page 16 with respect to claim 37 have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments on page 18 with respect to claim 54 are based on the argument directed to claim 37, and therefore is also moot in view of the new ground(s) of rejection as indicated above for claim 37.

5. Applicant's arguments on page 20 with regarding to amended claim 72 have been considered but are moot in view of the new ground(s) of rejection. See rejections below for details.

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6. The rest of the argument(s) are based on the above arguments therefore are addressed based on above responses.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 37-74 are rejected under 35 U.S.C. 103(a) as unpatentable over Barkai et al (US publication 2002/0032769, hereafter Barkai_US), in view of Barkai et al (EP 1150454, hereafter Barkai_EP).

As to claim 37, Barkai_US disclose a system architecture for managing a ~~telecommunication~~ communication network (abstract) comprising network equipment (figure 3, components 33-34), said equipment having associated control interfaces (figure 5; interface between NEs and warehouse tier 52), the architecture comprising:

a base layer (figure 3, 5: warehouse tier 52) for proxying said interfaces and decoupling said interfaces from management functions ([0057] – [0067]); and

a support layer superposed to said base layer and comprising a plurality ~~comprised of a community~~ of agents (figure 3-5, agent tier 50 is superposed to warehouse tier 52; figure 5, agent tier 50 comprises a plurality of agents, “Provider Agent”, “Subscriber Agent”, “Device Agent”) co-ordinating operation of said base layer in order to support distributed management functionalities (figure 3 and 5; [0085]; [0060], “agent employ the message queue 72”, which is in warehouse Tier, i.e. base layer, “to transmit messages...provides message bus services throughout the distributed systems”; [0067], for device components, which is part of agent layer, “both peer and parent-child relationships are used during network management operations to

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provide for the intelligent collection of data and for the control of network elements”, which indicates agents coordinate base layer

Barkai_US does not expressly disclose said base layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising at least one of a workflow engine, a rule engine, and a combination thereof. Barkai_EP discloses a network management layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising a workflow engine (figure 3; [0042]-[0044], device components (DCs) are equivalent to distributed process executors comprising workflow engine, see figure 3 flowchart for workflow processed by device components (DCs); [0044], lines 20-25, “distributed algorithm”; [0042], lines 42-46 for network management. Examiner interprets the terms “workflow” according to specification page 10, lines 20-30, “a work flow is essentially full or partial automation...information or tasks are passed from one participant to another for action, according to a set of procedural rules...can be represented through a flow chart with a sequence of tasks and temporal and logical dependencies between tasks...”, “workflow engine” according to specification page 10, line 31 – page 11, line 34, “workflow engine is the component in a workflow automation program that possesses all the information related to the procedures, steps in a procedure, and rules for each step”, “process executor” according to specification [0097], “Process executors for any layer are intended to be a workflow (a flowchart), a rule engine, or a combination of the two”. As disclosed by Barkai_EP, message (information) is passed from one participant (DC) to another participant (another DC) for action (see figure 3, component 320, “Perform actin at DC level of responsibility”), according to a set of procedural rules (as indicated

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in the flow chart, such as checking whether message is required by parent DC, action required within DC, etc)).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the method disclosed by Barkai_US with the method disclosed by Barkai_EP regarding a network management layer comprising distributed process executors to execute in a distributed manner processes concerning management of said network, each process executor comprising a workflow engine. The suggestion/motivation of the combination would have been to provide a system-wide top-down flow with each DC performing its independent computations which collectively achieve the external request (Barkai_EP, [0044], lines 4-7) and to provide a distribute algorithm in a bottom-up flow by propagating to other DCs which change their state and/or perform their part in the distributed system (Barkai_EP, col. 8, lines 20-25).

As to claim 38, Barkai_US-Barkai_EP discloses the architecture of claim 37, wherein said distributed management functionalities include FCAPS (Barkai_US, Fault ([0049], “fault”; [0062], “audit log...reporting software events”), Configuration ([0051]-[0052];[0034]-[0036]; [0054]-[0055], configuration information is gathered through both "NE translator" and one of the "Collector"s; [0031]; [0045]; [0048]), Accounting ([0031]: billing), Performance ([0031]; [0036]-[0037]; [0045]), Security (claim 3; also SNMP protocol itself provides security such as using public/private community therefore those proxy modules that need to send SNMP request to SNMP collector also supports security, such as “NE translator” which is implied) functionalities. It is to be noted that both Accounting and Performance that is supported by the network management necessarily relies on statistics data gathered from network elements

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therefore those proxy modules such as “NE translator” and “SNMP collector” that are used to collect data from network elements support such functionalities.

As to claim 39, Barkai_US-Barkai_EP discloses the architecture of claim 37, wherein said base layer comprises: a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol (Barkai_US, figure 5: component 75, “SNMP collector”); and a sub-layer of resource proxy modules (Barkai_US, figure 5: “SNMP collector”, “Instrumentation Manager”, and “NE Translator”), each said proxy module providing a representation of the configuration of given network equipment according to a defined information model (Barkai_US, figure 5, “NE Translator”, “DB Translator”, “DS Translator”, “Audit Log”, “Instrumentation Manager”, “SNMP collector”; [0048]; [0057]-[0065]; [0063], note: SNMP uses MIB (management information base)).

As to claim 40, Barkai_US-Barkai_EP discloses the architecture of claim 39, wherein said resource proxy modules are configured for aligning said representation to the network of given network equipment by at least one operation selected from the group of: performing all the management actions on said network by invoking operation through at least one associate protocol adapter (Barkai_US, figure 5: “instrumentation manager”, “SNMP collector”; [0063]); receiving at said resource proxy modules all the notifications sent by said network equipment (Barkai_US, figure 5: “Audit log”, and “SNMP collector” by SNMP commands such as “trap” [0062]-[0063]); and performing a periodical verification of alignment between the representation of the network equipment and said network equipment (Barkai_US, figure 5: “SNMP collector” by SNMP commands, such as “get”; [0063] and [0054]).

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As to claim 41, Barkai_US-Barkai_EP discloses the architecture of claim 40, wherein said resource proxy modules are configured for enrichment with element manager information (Barkai_US, [0063] and [0054]).

As to claim 42, Barkai_US-Barkai_EP discloses the architecture of claim 40, wherein said resource proxy modules are configured for running processes using said process executor (Barkai_EP, figure 3; [0043]-[0044]).

As to claim 43, Barkai_US-Barkai_EP disclose the architecture of claim 40, wherein said resource proxy modules are configured for interacting directly with one another in an interworking relationship (Barkai_US, figure 5, “NE translator” interacts directly with “Instrumentation manager”; [0063]; [0090], “instrumentation manager routes the request to an appropriate collector”).

As to claim 44, Barkai_US-Barkai_EP discloses the architecture of claim 37, wherein said agents in said community are configured for running vendor and technology independent services (Barkai_US, [0060]).

As to claim 45, Barkai_US-Barkai_EP discloses the architecture of claim 37, comprising at least one manager application (Barkai_US, [0049] – [0050]) configured for performing functions selected from the group of: managing distribution of processes between said base layer and said support layer; managing distribution of information models between said base layer and said support layer (Barkai_US, [0049]-[0050]; [0054]); monitoring the state of the architecture on the basis of information provided by said agents in said community (Barkai_US, [0049]-[0050]; [0054]; [0061]-[0062]); interacting with external systems (Barkai_US, [0049]-[0050]; [0060]); and executing management processes (Barkai_US, [0050]).

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As to claim 46, Barkai_US-Barkai_EP discloses the architecture of claim 45, wherein said at least one manager application comprises a separated, additional upper layer in said architecture (Barkai_US, [0049]-[0050]).

As to claim 47, Barkai_US-Barkai_EP discloses the architecture of claim 45, wherein said at least one manager application is at least partly integrated to said support layer (Barkai_US, [0054]).

As to claim 48, Barkai_US does not expressly disclose all said layers in said architecture include process executors. Barkai et al (EP) discloses network management layer (agent layer) includes process executor (Barkai_EP, device component, see figure 3; [0043]-[0044]).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the architecture disclosed by Barkai_US with the method disclosed by Barkai_EP regarding network management layer includes process executor. See similar motivation in claim 37 rejection.

As to claim 49, Barkai_US-Barkai_EP discloses the architecture of claim 48, wherein each of said process executors in each of said layers comprises a workflow (Barkai_EP, figure 3; [0043]-[0044]).

As to claim 50, Barkai_US-Barkai_EP discloses the architecture of claim 37, comprising agents hosted on different machines, said agents being movable among different machines (Barkai_US, [0059]: “distributed repository”).

As to claim 51, Barkai_US-Barkai_EP discloses the architecture of claim 37, wherein said layers in said architecture include components adapted to perform respective functions based on respective instructions information provided to them (Barkai_US, [0055]) and a data

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base is provided storing said instruction information, the architecture being arranged for distributing said instruction information from said data base to said components (Barkai_US, [0058]).

As to claim 52, Barkai_US-Barkai_EP discloses the architecture of claim 51, wherein said instruction information comprises at least one of:

process definitions ~~such as~~ comprising at least one of workflows and rules; and data model definitions (Barkai_US, [0055]; Barkai_EP, figure 3, [0043]-[0044]).

As to claim 53, Barkai_US-Barkai_EP discloses the architecture of claim 51, comprising at least one manager application configured for managing distribution of information models between said base layer and said support layer, said data base being associated with said at least one manager application (Barkai_US, [0054]; [0058]).

Claims (54-70) are method claims corresponding to system architecture claims (37-53). Therefore they have been analyzed and rejected based upon system claims respectively.

As to claim 71, see similar rejection to claims 37 to 53 and 73.

Claim 72 is a computer-readable medium claim corresponding to method claim 54. Therefore it has been analyzed and rejected based upon the method claim.

As to claim 73, see similar rejection and reasoning/citations in rejection to claim 38.

As to claim 74, see similar rejection and reasoning/citations in rejection to claim 38.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUA FAN whose telephone number is (571)270-5311. The examiner can normally be reached on M-F 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. F./

Examiner, Art Unit 2456

/Bunjob Jaroenchonwanit/

Supervisory Patent Examiner, Art Unit 2456